

# Deconstructing the Methods and Synergies in Problem-Based Learning, Community-Based Project-Organized Education: Perspectives at the University of Venda, South Africa

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## Abstract

This case study discusses the deconstructions and synergies of problem-based learning (PBL) and community-based project-organized education. The growing literature on these methods lacks in coverage of their synergies and their applicability to meaningful projects with communities as partners. Community-based learning is inherently problem based and provides a natural environment to introduce problem-based learning, but problem-based learning is not inherently community-based. A project-organized curriculum is not necessarily community based or problem oriented. Its application in community problem-based models therefore requires clear articulation. Scholars wishing to use both approaches are faced with the challenge of revisiting the connections from time to time, given the evolving and changing contextual nature of community issues, problems, and needs. This article discusses theoretical underpinnings, context, applications, and experiences in using these methods at the Department of Nursing Sciences at the University of Venda in South Africa.

## Introduction

The University of Venda (Univen) is situated in Limpopo Province, one of the poorest of the nine provinces in South Africa. It is located in the far northeastern part of the country and borders on Mozambique, Zimbabwe, and Botswana. Its students come from predominantly poor, black families.

In postapartheid South Africa, required curriculum reform in higher education has increased pressure on universities, through the Council for Higher Education, to become more accountable for the learning outcomes of students, to redefine their existence and their role in community well-being.

The National Higher Education Plan, as stipulated in the White Paper and accreditation procedures of the South African Qualifications Authority (SAQA), requires careful scrutiny, planning, and curriculum implementation which is competency based, outcomes based, and responsive to the needs of the community. This is to be implemented with community participation and partnerships. SAQA designed the critical cross-field outcomes that apply to all learning areas: knowledge, attitude, and values. The cross addresses areas such as

1. identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made;
2. working effectively with others as a member of a team, group, organization, and community;
3. organizing and managing oneself and one's activities responsibly and effectively;
4. collecting, analyzing, organizing, and critically evaluating information;
5. communicating effectively using visual, mathematical, and/or language skills in the modes of oral and written persuasion;
6. using science and technology effectively and critically, showing responsibility toward the environment and the health of others;
7. demonstrating an understanding of the world as a set of related systems by recognizing that problem-solving contexts do not exist in isolation; and
8. contributing to the full personal development of society at large, by making it the underlying intention of any program to make an individual aware of the importance of
  - reflecting on and exploring a variety of strategies to learn more effectively;
  - participating as responsible citizens in the life of local, national, and global communities;
  - exploring education and career opportunities; and
  - developing entrepreneurial opportunities (*RSA 1997a, 1997b, 1997c; SAQA 1995 in Netshandama 2004*).

To achieve these critical cross-field outcomes in any program, a combination of methods and strategies for teaching is necessary. Combining methods in this way requires a clear articulation of processes and dynamics involved. This article discusses the connections, deconstructions, and synergies of the methods (problem-oriented, project-organized, community-based curriculum) at the University of Venda.

## Theoretical Underpinnings

Dewey (1933), an American philosopher and educator, and Freire (1970), a Brazilian educator, provide the theoretical basis for teaching and learning perspectives that seek to engage communities toward addressing development issues. Dewey is known for his suggestion to shift the focus toward how learning takes place rather than what people learn—from the content to the process of learning. Freire's work was on empowering education as a mechanism that allows individual liberation so that learners are subjects and actors in their own lives and in society. Freire argues that knowledge should be embedded in a context in order to be useful to the community.

A curriculum, according to Freire, should not be predetermined and out of context. The group members are encouraged to devise their own curriculum and actions that address the relevant problems. It emphasizes action and subsequent reflection as keys to the learning process (Wallerstein and Bernstein 1988, 382; Travers 1997, 345). Freire offers a three-step methodology that forms the basis of empowering education programs. The first step is listening to understand the felt issues or themes of the community; the second step is participatory dialogue about the investigated issue using a problem-solving methodology; and the third step is action or the positive changes that people envision during their dialogue. The steps are conducted in partnership with community members.

Several challenges to implementing Freire and empowering education have been widely discussed in literature. Wallerstein and Bernstein (1994, 149–53) argue that community empowerment entails participatory education, which presents a number of challenges to educators:

- how academics work effectively with others for community empowerment;
- avoiding putting emphasis on power, as it entitles some people to oppress others as they increase their own power;

- how to sustain long-term commitment to an empowerment process despite the setbacks and the difficulties of guaranteeing immediate results; and
- how to value and honor individual contributions, yet address, on a community and individual level, the underlying conditions that further powerlessness (*Wallerstein and Bernstein 1994, 143*).

Finally, the legacy of Boyer's (1990) scholarship of engagement has also had a great influence on the South African focus on higher education institutions' efforts toward responsiveness to societal needs (*HEQC/JET 2005*).

The next few paragraphs deal with the brief descriptions of the methods used in problem-based learning, community-based project-organized education, and project-organized curriculum as applied in the context of the Department of Nursing Sciences at the University of Venda.

In this article, *problem-based learning* refers to the theory, the model, and the practice (*Kolmos 2002*). Students utilize the problem as a stimulus to discover the information needed to understand the problem and hasten the solution. It is a teaching/learning process that involves problems students must solve by searching for information on their own, as self-directed learners. It has the following characteristics:

- A real-world problem is the starting point.
- Knowledge that students should acquire is organized around problems, not disciplines.
- Students assume the major responsibility for their own instruction and learning.
- Learning occurs within the context of small groups rather than during lectures (*Bridges and Hallinger 1992*).

At the University of Venda, the emphasis in the Department of Nursing Sciences was on the problems that needed be defined and understood by and with communities; hence we adopted the construct "community problem-based learning" (CPBL) or "community-based education" (CBE) to include the former.

We chose to use Fichardt and colleagues' (2000, 90) description of community-based education to achieve educational relevance to community needs. It is conducted with community involvement and participation, wherever people live. It utilizes the problem-

based approach to teaching. Experiential learning forms an essential component of community-based education programs.

Active community participation is essential for the implementation and development of community-based education programs; it ensures sustainability of community-based activities and provides political and moral support for the university. The community should be regarded as a partner and should feel responsible for the implementation of the program (*Gelmon and Agre-Kippenhan, 2002*).

In the Department of Nursing Sciences, the community problem-based approach to teaching and learning was introduced with the inception of a four-year generic degree program in 1997. It was then noted that community problem-based learning would be implemented amid enormous challenges. In fact, some staff members felt that attempts to implement this kind of curriculum at the University of Venda were bound to fail.

Conducting problem-based learning with a community orientation at the University of Venda was not an entirely new venture among higher education institutions in South Africa, or worldwide. For example, Richards (2001, 364) wrote that the University of Gezira Medical School (UGMS) in Wad Medani, Sudan, had succeeded in combining problem-based learning with community orientation. Since then several other universities have designed, implemented, and tested similar curricula in Sudan and in parts of South Africa (e.g., the University of Transkei).

The Aalborg experiment in Denmark was used as a point of departure for implementing a project-organized curriculum. Implementing the decision to introduce this model for a project-organized curriculum, however, involved more than straightforward adoption by the Department of Nursing Sciences. The nursing sciences in South Africa are regulated by the South African Nursing Council, a professional body similar to the National Council of State Boards of Nursing in the United States and governmental agencies in other countries. The department had to consider whether implementing a project-organized curriculum would introduce conflicts with other university departments similarly answerable to a professional body (*University of Venda Working Documents Committee 1999*).

In contrast to the traditional subject- or discipline-oriented learning, project-organized learning, like problem-based learning, derives from a problem or a set of problems. The content will consequently be whatever material, investigation, or theory can

contribute to the understanding, illumination, or solving of the problem. According to Illeris (1998), project design is based on three fundamental theoretical principles:

- the principle of *problem orientation*, which indicates that the starting point for the process is a problem or a set of problems and that the content will consequently be whatever material, investigation, or theory can contribute to the understanding, illumination, or solving of the problem;
- the principle of *participant direction*, which indicates that all relevant participants, students, tutors, and others should direct the process, although this does not mean that all participants have the same functions or responsibilities;
- the principle of *exemplarity*, which indicates that the problems that one chooses to deal with (project) should serve as a representative example of a larger and essential area of reality.

According to the Aalborg experiment, curriculum design should be organized into themes (*Kjersdam and Enemark 1994, 19*) rather than into subject specialties. These themes chosen in a program must be generalized so that the combination of themes will meet the aims and constitute the professional profile of the education. They should provide for studying the core elements of the subjects included (through the course given) as well as exploring (through project work) the application of the subjects in professional practice and society.

After several planning sessions the nursing department was able to map out an implementation outline using a generic four-year degree program (table 1). During their first year, the students were required to conduct community assessment with the nursing process philosophies in mind. Given the students' underprivileged background, it was necessary to give them a vigorous orientation in the first semester in the form of workshops aimed at boosting their self-confidence and self-esteem. In the second year students were required to produce a detailed community-mapping report with more time to be spent in the community than in the classroom. Students were encouraged to formulate collaborative projects to address the needs they encountered during community assessment. They learned how to negotiate projects with community members as partners in the learning process. At third-year level the students followed a much more specialized curriculum: they were required to manage their collaborative projects with community partners.

**Table 1. Outline: Four-year generic nursing degree**

Year	Content
1	Community Assessment (Core)
2	Project Development (Core) Community Mapping
3	Project Management
4	Project Evaluation and Rehabilitation Report to Community (Continuous Process)

During their fourth year, project evaluation and rehabilitation were emphasized. The following principles were to be adopted:

- “Batho pele” (people first). In South Africa, *batho pele* is also a policy of government designed to address the question of respect for people by each civil servant.
- Experience was to be central to their learning. It was assumed that they learned to solve problems with the community by solving them.
- Learning units were arranged according to current issues. The nurses would acquaint themselves with the district health calendar: HIV and AIDS month, breast cancer week, and so on.
- Training needed to continue and be interactive over time beyond a single short introductory session.
- Assessment methods for students in problem-based programs needed to be consistent with how students learn.
- Learning needed to be holistic and integrated. For example, nursing students’ perspective needed to include the sociopolitical problems of health and healing (Kantrowitz *et al.* 1987).
- The teacher facilitated the learning and helped students make connections between different areas of knowledge according to themes.

As the nursing sciences department, we agreed to rule out the influences we did not need, and we maneuvered our way to be among the first to develop and implement the curriculum. The following section describes the experiences of the students and staff in implementing the curriculum.

## Case Study

The class of 2000 was asked to keep diaries and to write about their first year's experience with the project-organized community problem-based learning. Diary entries and naïve sketches of those who were willing to participate in the study were read, transcribed, and subjected to a qualitative open-coding analysis. The first author also facilitated a focus-group discussion with them during the later part of the year. By this time they were open toward each other and would even joke in class about their experiences. Several themes are highlighted in this article to summarize their contextual experiences. These include their experience of culture shock, perceived lack of support and, later on, a feeling of fulfillment generated by the contribution they had made to and with the communities.

**Culture shock:** It is reported that the early years of problem-based learning caused much anxiety among young learners, many of whom had entered the course directly from school. With increasing student diversity (e.g., culture and educational background), this problem-based learning-induced anxiety could hinder learning (*Mifflin, Campbell, and Price 1999*). At first students thought they knew their communities and that there was no need to be allocated to community assessment for the whole year, as they were part of the same communities. After several visits and interaction with the communities, students realized that they had so much to learn about the communities that they were overwhelmed. One student said:

I guess we knew that the environment will be different, but nothing imaginable to what we discovered as we go on. The amount of responsibility to me was overwhelming. First the idea that we had to learn about the problem of the community did not make sense, which communities is she referring to? I come from the community, I know all about it.

Learning in the community is different from learning in the classroom and entails problem-solving processes and outcomes. The expectations, workload, and responsibilities of the learning process were at times intimidating. As one student wrote:

For a moment I thought I had chosen the wrong course. How on earth can I be expected to do all that? I checked

with other students in other departments, and they did not understand what I was talking about.

**Perceived lack of support:** Students perceived a lack of support from their tutors, managers, and community members. As one student wrote, “There are so many cases which we never made any follow up because of the University which never supported us.” Other support issues were related to

- insufficient orientation to project-organized, self-directed learning;
- not enough support from project facilitators;
- lack of commitment on the part of the institution;
- lack of facilities from the institution;
- lack of funding to support their projects.

Issues of student support and proper orientation during this kind of learning approach have been discussed elsewhere. For example, strong support from the academic administrators (the dean and other staff responsible for implementation of the curriculum) in the introduction of problem-based learning into the curriculum and careful training of both faculty and students appear to be key factors to ensure the successful implementation of problem-based learning in Asian medical schools (*Khoo 2003*).

Experiences in community problem-based learning are resource-intensive, particularly in the initial phase. Students need to meet in large or small groups in a space that is more flexible than the traditional lecture halls and classrooms (*Gibbons and Gray 2002*).

**Positive experiences:** Finally, it was noted that as students progress, they realize the significant contribution of these models and they take up responsibilities and also challenge administrators and lecturers about providing the resources and support needed for the their implementation. At the roundtable talks with one group of community partners about the envisaged contribution of the university toward their development strategy, a student representative said:

To us it is more than just learning. You [administrators and academics] should bear in mind that before we are students in this university, we are community members. It is our community, our families, where we come from.

Students emphasized that they found these methods of learning more rewarding and they were oriented toward responsible citizenship.

**Educators and administrators:** Interested educators, department heads, deans, and members of the executive management were interviewed. Nurse educators were also asked to volunteer to write naïve sketches. These were qualitatively analyzed using open coding. Other than issues regarding lack of resources (which would require another article), the emerging themes were:

1. lack of institutional drive;
2. perceived lack of commitment to the course from government and senior managers in the institution;
3. lack of an interdisciplinary approach to teaching and learning.

Directives on community problem-based learning, or CPBL, and project-organized curriculum innovation were communicated in the strategic plan. CPBL workshops and seminars were offered to increase teachers' competence in developing CPBL and project scenarios, to readjust expert-facilitator roles, and to lead tutorials; however, educators felt that the time allocated to obtaining institutional buy-in was very limited and that there was insufficient focus on doing the job well. Efforts to market the mission apparently were limited. People at the grassroots level hardly knew about its significance. Those academics who understood its significance felt there was inadequate emphasis. Participants could not assimilate necessary information because too many things were required at the same time from the same people. Interview comments reflected the pressure and confusion: "It was usually hit and run, you are told about this today and tomorrow you are required to implement"; "There was too much going on, PBL today, tomorrow CBE then Projects, we needed to focus on one thing."

Every staff member needed to understand issues around curriculum reform or else the resistance would start at that level. The first author's initial meeting with the transport officers about the need for transport for nursing students to go on their community visits was not easy. Eventually they understood and then came up with suggestions on how we could work things out.

## Discussion

Literature confirms that reorienting academic programs toward more overtly community development-based objectives, especially

those involving the direct and significant input of the community into the definition of academic objectives, is a massive and daunting undertaking, especially given the resistance to change in academic institutions in general (*Nyden and Weiwei 1992*, 43). Freire (1994) says the effective teacher needs to have skills, particularly in communication and group facilitation; courage to persevere in challenging assumptions; humility, especially in resisting guru status as a teacher; political clarity in the capacity to break free from dominant paradigms; and needs to be prepared to take risks in order to creatively engage students in the excitement of learning.

Thus there was a need on the part of management to consistently drive the process and to manage change issues. There was a need for a critical mind-set in the drivers and implementers

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concerned. Schools were expected to provide directives on CPBL innovation in their strategic plan, so that all teachers were informed of this move. Not enough CPBL workshops and seminars were offered to give teachers competence to develop, lead, and readjust expert-facilitator roles. To accommodate project work, a lot had to be restructured (contact hours,

time for project work, assessment strategies, etc.), which involved not only educators but support staff. An interdisciplinary framework needed to be put in place and managed.

In the case of nursing programs, tutors who are subject experts (psychiatry, midwifery, community, etc.) were expected to work closely together with due consideration for the privacy of individuals and families in the community as partners. This was particularly daunting to those who were used to working solo.

Albanese and Xakellis (2001) refer to building collegiality as the real value of PBL. They explain how teamwork actually prepares medical students for the cooperative world and empowers them to solve the problems that they would not be able to solve alone. It is also interesting to note that collegiality in our context extends from campus walls to local communities. Communities are more vocal toward universities. They expect more and they pose challenging questions. The failure of academics to keep their promises was given as one of the serious concerns communities hold when they contemplate entering into partnerships with universities (*Netshandama 2004*).

The question of breaking the barriers to the interdisciplinary approach is something that literature has started addressing. Several recommendations have been made on how it can be improved (*Aron, John, and Papp 2000; McLean 2004*). A considerable number of studies are coming out that share the experiences in disciplines other than nursing and medicine (*Knowlton 2003; Gibbons and Gray 2002; Chin and Chia 2004*).

## Conclusions

At the University of Venda lessons regarding the synergies of community problem-based learning and project-organized curriculum continue to be learned. Things do not always go well, but the students learn and are more visible in their workplace and in the community. The university's level of engaging the communities has been elevated, and there is evidence that local communities are becoming more competent. Several communities are now challenging the university not only on their needs, but on processes not followed up in a considerate manner and the university's acts of omission. Although resistance toward these curriculum innovations remains among some University of Venda staff members, there is also a movement toward capacity building and interest in learning more about how these methods can be best applied, given the context.

It is hoped that this article will generate discussions that will further provide inputs toward synergizing these methodologies and approaches for effective teaching and learning and responsiveness to community needs. The journey in search of quality implementation of these methods and harmonizing them toward effective community development processes continues. Enablers for ongoing quality monitoring avenues for those programs that seek to implement CBPL and project-organized curriculum in collaboration with community as partners should be sought.

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